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## Special Issue:

Making Masculinity: Craft, Gender and Material Production in the Long Nineteenth Century

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# The End of Craft? The Force of Embodied Male Labour in Industrial Manufacture in Early-Nineteenth Century Sheffield and Birmingham(1)

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Figure 1: Hirst, Michael. A plater's melting and plating Shop, from "A Short Account of the Founders of the Silver, & Plated Establishments in Sheffield. Part I," 1. 1820-32. Reproduced by permission of Sheffield Archives.

<1>If the reader never was in a plater's melting and plating Shop, a glance at the annexed representation of one, may afford some idea of the Process of Casting and plating the Metal. (Hirst 3).

So begins "A Short Account of the Founders of the Silver, & Plated Establishments in Sheffield," the remarkable 100-page quarto illustrated manuscript written sometime between 1820 and 1832, at the end of his life by Robert Michael Hirst. (2) Each page carefully bordered with decorative margins and several with ornamental headers or full-page illustrations, first in pencil then in ink, this volume was dedicated to the "Modern, interesting and elegant" process of silver plating (Hirst 2). The first image is not particularly notable for its artistic merit. The perspective is askew and the viewer might wonder how the man on the left remained upright and avoided spilling the molten metal all over his lower legs—when he was balanced so precariously on his heels. Despite its undeniably amateur nature, the image shares some of the principal features of other contemporary depictions of the interior of metal workshops in Sheffield. One recurring motif is the open window or door. This typically opened onto a lush wooded landscape (bright vivid spring green in coloured illustrations), the natural site for small workshops (Harvey "Craftsmen in Common," 79-80). This detail is missing in Hirst's drawing, but the sun is streaming in and casting distinct shadows across the floor. These men are completely absorbed in their tasks, their eyes, hands and indeed entire bodies engaged. It is significant that all these men are engaged in 'hot' processes, those which are now regarded as the most highly skilled stages of working with metal (Mollono 9), and thus Hirst suggests their relatively high status in the workshop. They appear respectably well dressed: their trousers and knee breeches absent of obvious wear or tear; their skin clear of any sign of their messy occupations; their sleeves are rolled up in orderly fashion; one man (as is often the case) is wearing a hat. The arms of these men may not be as developed as the forearms of metal workers in later painting but their exposure was a key symbol of manual labour (Harvey, "Men of Parts," 819-820).

<2>Hirst's plate lays out the interior of the workshop and depicts the three men performing different tasks as an introduction to the working environment of silver casting and plating. During the course of the two-part manuscript that followed, Hirst would describe the processes of casting and plating in some detail. His aim was to present to readers "the mysteries of the Craft of Silver-Smiths" (Hirst 21). His stated purpose was to explicate the hidden tasks of the craftsman and showcase the products of his skill and labour. But above all, the manuscript is a paean to the men working in the trade and an impassioned plea for their protection. Though the opening image was the only visual depiction of these men, the text of this extraordinary manuscript contains several different depictions of the male metal worker's body: the competent attentive workshop man, the heroic ingenious craftsman and the destroyed and pitiful worker. This essay uses Hirst's manuscript as a focus for an examination of the political, cultural and social force of embodied male labour. It puts this into the context of other visual and written depictions of men working in the metal trades in Sheffield and Birmingham in order to interrogate how male working bodies engaged in craft were represented as mechanization was introduced. In both the light and heavy metal trades, as in many others, a period of

intensive mechanization during the nineteenth century was to change the nature of work for both men and women. Taking a longer view of the history of work, these changes arguably led to a denigration of traditional artisanal and craft skills. Dominated by male workers, the metal trades allow an instructive case-study of how these processes led to changes in the social and cultural value of embodied male labour during the late eighteenth and nineteenth centuries.

<3>According to John Tosh, one of the two new features of nineteenth-century masculinity was "an increasing self-consciousness about occupation (or "calling") and a corresponding elaboration of the work ethic" (Tosh 332). Masculinity and productive work were increasingly constitutive of one another. For Tosh, this elevated a specifically "bourgeois manliness" (Tosh 333). The core attributes of this manliness—"physical vigor, energy and resolution, courage, and straightforwardness"—were equally applicable to labouring or working-class masculinity, though (Tosh 335). Others such as Matthew McCormack have shown how the concept of work or "occupation" was key to many forms of ideal masculinity during this period (Horrell and Humphries; McCormack 17). At the same time, the power of men's bodies was becoming increasingly highlighted through changes in clothing that emphasized muscles and cultural codes that underlined rougher styles of manhood (Cohen, Harvey, "Craftsmen in Common," Harvey, "Men of Parts," 809-12, Myrone). A recent study extends this work, showing how the qualities of the muscular working-man's body were increasingly incorporated into ideals of masculinity during the nineteenth century (Begiato, 2016, 136-47). Tim Barringer's important book, Men at Work: Art and Labour in Victorian England (2005), situates visual representations of these working-man's bodies in the context of debates about the value of labour. Barringer argues that as traditional masculinity and the heroic male body was threatened by mechanization, the established "iconicity of the working man's body" was challenged as never before (Barringer 8). Victorian representations of the labouring male body exposed two different approaches to labour: instrumental theories of labour that saw labour as a resource with which to create products were pitted against the "expressive view" of social critics and others for whom labour should have a purpose or a value in itself (Barringer 27-28). Even in the context of an intensified commodification of labour during widespread industrialization, the power and physical force of men's embodied labour could be elevated to the status of an ideal.

<4>This scholarship provides an important contribution to a history of masculinity that too often focuses on middling-sort or middle-class masculinity. It demonstrates what I have elsewhere referred to as "a new public role for the male body," and specifically the middling-sort male body (Harvey, "Men of Parts," 816-7), and how this was also evident for the working man. Whilst we can acknowledge that, "rougher, tougher and more taciturn styles of manhood became more important" (Harvey, "Craftsmen in Common," 69) we need to reassess our interpretation of the body in such representations. Yet in highlighting the male labourer as a body characterized by physical strength or prowess, we risk skating over the important qualities associated with the labour performed by that body. This essay shows how the qualities of labouring man exceeded those of his physical body and uncovers a vision of embodied male

labour in industrializing metal manufacturing, which continued to suffuse the power of the industrial worker's body with the skill of the craftsman.

<5>The uses to which the male body was put were certainly becoming increasingly important to male identity during this period and the male worker was acquiring a new political significance in the context of growing demands for parliamentary representation (Clark). Yet the essay suggests we need to move away from overly general chronologies of masculinity and pay more attention to place and occupations, demonstrating that such representations were affected by local conditions of trade, culture and politics. This essay begins by showing that while studies from art and some cultural historians have emphasised the visual representation of work, depictions of the male body in images of metalworking before 1850 were in fact rare. In a comparative study of Sheffield and Birmingham—towns both famed for their metalwork—the essay shows that the social and cultural power of embodied labour varied according to the nature of the industry and the standing of workers in the town. Representations of industry in Birmingham emphasized the innovation and invention of thinking men, while in Sheffield the labour of the metal working "craftsman" who combined brawn and dexterity in the late eighteenth and early nineteenth centuries became more visible in depictions of public masculinity. At the heart of the essay is a detailed study of R. M. Hirst's text, a work which insisted on the embodiment of men's work and yet avowed that manly workers in Sheffield could not be reduced to their corporeality.

## The Absence of Labour

<6>In his 1775 Beauties of History, the Irish school master Samuel Whyte bemoaned ill-informed consumers' neglect of domestic manufactured products at home in favour of what they supposed were European-made items bought overseas:

We admire and search after every Bauble of foreign Extraction, with an Avidity of Politeness bordering upon Frenzy; and, in the same Spirit, despise every Thing of our own Growth. While Foreigners, more wise, but less complaisant, paying a just and laudable Respect to themselves, establish their Fortunes on our Imagination, and make a Property of our Folly. Our *Ciceroni* and our *Virtú* daily expend vast Sums, and load themselves with Articles of Elegancy and Fancy, in the Shops of Italy and France, passing for the native Produce of those Countries, but actually imported from England; the Production of *Birmingham, Sheffield, Worcester*, and other manufacturing Towns at Home; which had there lain a Dreg, unnoticed and without Purchasers (Whyte, 1:xix)

Whyte points out the irony in the desiring imaginations of British consumers, which allowed them to be seduced by European "baubles," though in fact the things they buy are English products and "of our own Growth." Consumers should take pride in home-grown products, Whyte counselled, though in order to do so they required an in-depth knowledge of the nature of things and their production. Kate Smith's *Material Goods, Moving Hands* (2014) shows that by the early nineteenth century, in the ceramics trades at least, "consumers and producers

inhabited different realms," with the realities of the manufacturing process and the nature of embodied labour ever-more distant from the experiences and knowledge of the consumers (Smith 145). In Whyte's complaint, British consumption of British goods was displaced even further by being located overseas. Such growing divergence of consumption and production was characteristic of two linked processes: the commodification of things and the alienation of labour. Commodities were ever more important to the self- and corporate identities of consumers through their meaning-making role in discourses of luxury and politeness (Klein). At the same time, as Whyte appears to confirm, commodities were becoming ever less important to the identities of workers. Here we see an early discussion of the alienation of workers from the products that they manufactured.

<7>The glamour of Europe contrasted starkly with the manufacturing centres of England. Whyte's coupling of the metal-making towns of Birmingham and Sheffield (along with Worcester, a centre of glove-making in the eighteenth century) was common in the eighteenth century. "[W]hole Towns (like our Birmingham and Sheffield)," wrote one author in 1750, were "fill'd with Smiths, Cutlers, and other Mechanics, employ'd in various Works of Iron and Steel" (The Wonders of Nature 1:221). Both towns were good examples of the emergence of "specialist industrial towns" that became a principal feature of urban change in the eighteenth century (Corfield 22). Sheffield and Birmingham were leaders in technological innovation and the production of new goods for the growing consumer market (Berg, 2002). Unlike in much of the textile industry, say, metal production in both towns was organized in small-scale workshops that combined the features of the traditional craft workshop with innovation and scientific improvement (Behagg). One important consequence was that these "craft trades" often displayed considerable coherence between skilled and unskilled workers, masters and small-scale industrialists with "a shared labour interest" (Rule, The Labouring Classes 158, 224-5). And in two principal ways the Birmingham and Sheffield metal industries illustrate wider features of changing industrial production. First, the integration of the workforce provided conditions in which, as John Rule has noted, artisans (not just factory workers) could play a formative role in the development of working-class identities (Rule, The Experience of Labour). Second, the endurance of the workshop as the principal working environment was exemplary of nineteenth-century British industrialisation in which handwork remained preeminent until the late nineteenth century (Adamson xvi, 147). The small metal workshop, rather than the large textile mill, exemplified these features of industrializing England (Grayson; Behagg 2-3).

<8>Despite widespread discussion of these trades, depictions of male metal workers in Sheffield and Birmingham from the late eighteenth and early nineteenth centuries are difficult to find. A survey of a wide range of visual representations, material culture, printed travel guides and commentaries, letters and diaries from Sheffield, wider South Yorkshire and Birmingham during the period c.1750-1850 generates few visual depictions or written descriptions of the male body at work. One notable exception are travellers to these areas who would occasionally comment on the impact of work on workers' bodies. On his journey through Sheffield, for example, John Housman explicitly denied that the "hard and heavy work by the

hands of men" in iron and steel forging before the introduction of machinery had "occasioned Sheffield to abound in cripples and in weak deformed people." He did acknowledge, though, that the nature of metal production gave "to the manufacturers, as well as the town itself, a very dark complexion" (Housman 3-4). This was arguably reflected in scenes of manufacturing in Sheffield and the surrounding area, in which industrial landscapes featured small dark figures in the foreground. Sheffield was perceived as a dark grimy city with dark grimy men, whose bodies nevertheless remained intact. Yet in such surviving visual depictions of industry of this area, depictions of the labouring body tend to be small details in scenes which focus on workplaces or landscapes. Depictions of workers in sketches in both small workshops and large manufactories were often dwarfed by a natural environment which served as a foil to industrial labour (Harvey, "Craftsmen in Common," Ravenhill-Johnson).



Figure 2: 'The Soho Manufactory near Birmingham Belonging to Messers Boulton & Watt'. 1797. By permission of Birmingham Museums Trust.( $\underline{3}$ )

<9>In trade cards from both towns, the emphasis was on the site of the manufacture, particularly the external buildings, though these images characterized manufacturing in rather different ways. Perhaps the most represented manufactory in Birmingham was Matthew Boulton's Soho manufactory, two miles outside the town. Soho was invariably depicted like a country house, with its long sweeping driveway, lakes and even polite walkers. The contrast with images of Sheffield's rougher and smoking manufactories, whether small buildings in rural

settings or larger complexes in the town—such as the Globe Works established in 1824—is stark.

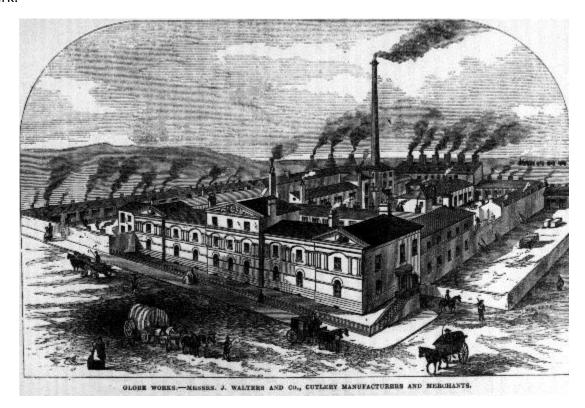


Figure 3: Globe Works, Penistone Road, Sheffield, built 1824. Reproduced by permission of Sheffield Archives.(4)

The absence of a focus on labouring bodies in these images of Sheffield and Birmingham industry suggests a pre-history to the Victorian heroic male workers that unsettles Tim Barringer's narrative. According to Barringer, before the virtual erasure of the working-man's body by the machine there was something akin to a golden age in an understanding of male labour. Once the working-man's body became such a site of contestation, it became increasingly difficult to represent the male labouring body. My research into both written and visual representations of Birmingham and Sheffield suggests instead that in a pre-mechanized and non-factory context, the working man's body in metal work was not an icon of traditional labour. Instead, it was hard to trace and rarely envisaged. Both written and visual depictions showed the location of work rather than the labour of work itself. This finding accords with the considerable range of visual representations of industry in Celina Fox's The Arts of Industry in the Age of Enlightenment, in which labour and the skills of makers were never accurately and fully depicted (Fox; Jonsson 685). As Fox shows, the value of skill and useful knowledge were widely discussed during the industrial revolution, but the embodied practice of manufacture was difficult to represent. As depictions of working men in Sheffield and Birmingham before 1850 are rare, then our history of understandings of the male body and male labouring in particular need to be nuanced according to both chronology and geography.

## **Labour and Liberty**

<10>In this context, Robert Michael Hirst's manuscript marks an important moment of change in depictions of the nineteenth-century workers in the metal trades of Sheffield. Written during the 1820s, the work predated Chartist's calls for universal manhood suffrage but appeared at the end of two decades of radical activism on behalf of working-class citizenship, a period punctuated by the massacre at the working-class meeting at Peterloo in Manchester in 1819 (Clark). Combining an older discourse of civic humanism with recently invigorated calls for change to working-class lives, the work prefigures later Victorian depictions of noble labour. The first part of Hirst's work was dedicated to the platers of Sheffield, Birmingham and London (Hirst 2); the second part of the work preserved the memory of the founders of the Sheffield plating industry but was dedicated to the Trustees of the London Mechanics Institution (Hirst 49). His work thus aimed to commemorate and preserve the status of the Sheffield trade nationally though, as we shall see, he also wrote to advocate improvements to the provision of those workers.

<11>Rather than focus only on the places or processes of manufacture, Hirst spoke at length about the men who laboured in the trades. In this majestic history of the silver and plate industry in Sheffield, Hirst situated contemporary workmen in an historic line of honourable, virtuous and independent metalworkers who exemplified traditional British liberties. Having opened his work with a rare depiction of men at work in a workshop, he includes several discussions of the workers' bodies in action. Yet as the two parts of the work progress, the bodies of workers go through a series of transformations. Part one begins by considering the different occupations in the process of metal plating. The first forty pages contain only traces of the (mostly male though in some cases female) workers' bodies. The accounts detail the outcome of the body's labour on the objects themselves: silver manufactories value the "clever Plater" on whose "care and dexterity" the quality of the metal depends; the die-sinkers— "ingenious and skilful artisans"—work to "design and smooth the various embellishments"; whilst "the brilliant and beautiful lustre" of the finished item is provided by the burnishers, along with the women (the only female workers mentioned) who boil the dies clean (Hirst 7, 13, 15). The men in Hirst's workshops did not simply labour to create an effect on the manufactured goods, though, but were themselves feeling bodies. The delights of a new method of smoothing small pieces of circular metal with an engine delighted "the heart of the workman" with "the skilful application of this powerful agent," Hirst reported, just as it would have "delighted the soul of Archimedes himself" (Hirst 19). Hirst's account becomes a panegyric to the plating trades, aligning metalworkers with Archimedes, the Greek mathematician and engineer, rather than a manual worker. Hirst here emphasizes ingenuity rather than brawn. With the feeling heart of the workman, the worker transformed from a physical labourer to a thinking and affective body.(5)



Figure 4: Hirst, Michael. John Drury from A Short Account of the Founders of the Silver, & Plated Establishments in Sheffield. Part I", 45. 1820-32. Reproduced by permission of Sheffield Archives.

<12>Yet "A Short Account of the Founders" was more than a description of the trades. The first part ends with a pendant sketch dedicated to "The Oldest Living Silver Plater" (John Drury), aged 80 in 1826, though deceased by the time Hirst's book was completed (Hirst 45-46). Smartly dressed but his face heavily lined with age and his frame much reduced from the bulkier men in the opening illustration, it was in fact for men like Drury that Hirst executed his

manuscript. His vision was for all workers in this trade to attain the old age and apparent comfort that – this image suggests – Drury enjoyed. Indeed, the volume becomes a manifesto for a radical vision of a nation without poverty, injury or premature demise amongst such workers. During the course of Hirst's descriptions, then, the feeling workman makes one final transformation into an ethical person.

<13>The ethical values embodied in the labouring man are underscored by interleaving the descriptions of manufacturing processes with poetic reflections on the virtues of liberty. One of the notable features of Hirst's manuscript is its integration of the commentary and illustrations on the metal trades with long extracts from two of James Thomson's poems. Hirst includes sections from *Liberty* (1735-6), a work that charts the fortunes of liberty from ancient Greece and Rome, celebrating the limited monarchy of Britain since 1688. The poem praises the many different arts of Britain, but Hirst selected those that centred on the virtues of trade. He uses the poem to situate his account of the plating industry within a vision of Britain where limited government allows economic growth and technical innovation as well as the liberty of citizens. In between the descriptions of the female burnishers and the work of the metal spinning engine, Hirst inserts the lines, "Hail: Independence! Hail! Heavens next best gift," the source of "public Freedom" (Hirst 18). A few pages later, Hirst reproduces the rousing patriotic lines from Thomson which connect this independence to vigorous trade:

How happy Freemen, and how wretched Slaves.

To Britons not unknown, to Britons full

The goddess spreads her stores, the secret soul

That quickens Trade, the breath unseen that wafts

To them the treasures of a balanc'd world (Hirst, 23).

The sentiment is underlined on the following page: "let trade enormous rise" (Hirst 23-4). This element of Hirst's work drew upon a much older tradition of civic humanism in which men's citizenship was predicated on their status as independent householders: only independence in private would enable genuine virtue in the public sphere. Since at least the middle of the eighteenth century this tradition had been adopted by the middling-sort in their calls for political participation, but by the late eighteenth century independence was becoming an ideal possession for all men, including the working class (Clark 141-157, McCormack). In holding up workers in the plating industry as exemplars of British liberty, Hirst united the independence of men with the independence of Britain in the form of the skilled male metalworker.

<14>Hirst's emphasis on the successes of the trade is not just celebratory. The ten pages he spends listing the profitable companies and the value of the plated goods they produce serves to underline that such thriving companies could act to secure the enduring comfort of their workers. Hirst prefaces his call for change by again quoting Thomson's *Liberty*:

Rights applied,

No starving wretch the land of Freedom stains,

If poor, employment finds; if old, demands, If sick, if maim'd, his miserable due; And will, if young, repay the fondest care (Hirst 37).

This stanza is followed immediately by a call for manufacturers, "animated by a generous sympathy for the worn-out, and disabled among their work-people," to provide relief in the form of pensions and "a comfortable nest of pretty Cottages" (Hirst 37). Such relief would be supplemented if 500 workmen themselves also contributed a penny a week into the fund (Hirst 39). Hirst's monumental study thus transforms from a panegyric upon the workers and their products. Though large parts of his description of the trade had not foregrounded the male worker's body, that body was now reintroduced into the manuscript in the form of an appeal for the relief of the frail and the aged worker. The physical stresses wrought to the young body of an apprentice "have a strong tendency to induce peculiar complaints, and must be prejudicial to the strongest constitution"; "much labour and ingenuity are required," he explains, "and a weak constitution is sometimes broken before this is accomplished" (Hirst 44). If those who make it through the apprenticeship are strong and resilient, they are nevertheless often radically reduced by the end of their working lives. The "clever workmen," "with both broken spirits & constitution inters upon a valletudinary [sic] state & premature old age" (Hirst 43). The descent of the working man is striking and pitiful. Such descriptions reflected the very real stresses that poverty and labour caused to the male (and female) working-class body and echoed other representations of stoic suffering that plebeian writers themselves used (Hogarth, 78-129).

<15>In the second part of Hirst's manuscript, which provides a history of silver-plating in Sheffield, the worker's body continues to serve as a rallying point for the virtues generated by industry and trade. Hirst here draws on another of Thomson's poems from the series The Seasons (1730; revised 1744), in which Thomson recounts the many blessings of "Industry! rough power!" (Hirst 54).(6) The technical innovations in fusing silver with copper to produce the plating material, the ingenuity in applying this to a wide variety of objects, the "skillful direction [...] elegant design, and masterly execution of persevering ingenuity, and successful, patient, industry" of "a variety of skillful Artizans" are framed first by discussions of biblical progenitors working in metal background and then further discussion of liberty and virtue (Hirst 78). First, contemporary metalwork echoes the working of iron recorded in scripture; industrial design thus reflects providential design (Hirst 62). Second, ending the volume with more from Thomson's Liberty, Hirst closes his discussion of metal plating by underlining public virtue as the "social cement of mankind" (Hirst 100). Thomson's vision of thriving liberal and mechanical arts expressing and contributing to the nation's success captured perfectly that of Hirst. Hirst's work can therefore be understood as the expression of a particular moment in the history of the representation of male workers bodies in which they came to embody a series of supposedly British virtues. Whilst indubitably local, then, this was also drawing on an old trope of the body as society or polity in which the (here, male working) body was wielded in a unifying national vision.

<16>For mid-nineteenth-century commentators, the men working in some occupations in the metal trades exemplified the worst of alienated proletarians. For Engels, workers were dehumanized "as a piece of capital" and the Sheffield grinders were an exemplary case of "the degradation of the English proletariat," their health ruined by the dusty and dangerous air they breathed and their working conditions (Engels 20; Barringer 204). Yet within the city there were other ways to depict these workers. By the mid nineteenth century, several workshops scenes foregrounded powerful and healthy-looking grinders in Sheffield. (7) Such depictions generated in the town itself, and which Hirst's volume prefigure, were part of a more general harnessing of depictions of workers by workers, notably in trade union culture (Ravenhill-Johnson). These more idealised images of Sheffield workers could be seen as exemplary of a more general process in which male labouring bodies became a touchstone in a Victorian debate about the nature of labour. Artists like Ford Madox Brown created unmistakably forceful lower-class labourers who were nevertheless modelled on the classical epitome of male beauty, the Apollo Belvedere (Barringer 39-40). Writers such as John Ruskin did likewise, believing (as Barringer puts it), that "Through work, men are constituted; masculinity is invested" (Barringer 28). Ruskin had strong connections to Sheffield, opening a museum for working men in the mid 1870s (Hewison). A town in which the major trades were organized in small-scale workshops and where workers used their hands and tools, not machines, did generate depictions of the value of labour. Indeed, it was this model of production that Ruskin and others idealized and promoted. It was partly for this reason that Sheffield and its tradition of work and of representing that work were an important part of the wider national debate.

## The Politics of Embodied Labour

<17>This emerging public culture of embodied male labour in and around Sheffield did not find an equivalent in Birmingham. There are several reasons why this might have been the case. First, while both cities boasted a fast-developing public culture of social and educational institutions, and consolidating civic identities, the role that industry appeared to play in each town's culture of sociability was distinct. The politics of men's labour in the metal trades had always been highly significant in Sheffield. As one writer put it in 1797, "The CORPORATION here concerns only the Manufactory, and is stiled The COMPANY of CUTLERS of Hallamshire" (Antiquities of Sheffield 37). The town was governed by the Cutlers' company, but the literary culture of the town was led by the traditional professions. As G. Calvert Holland noted in his 1843 book The Vital Statistics of Sheffield, "the manufacturers and merchants generally, show little solicitude either for their own improvement or that of their families" (Calvert Holland 239). The literary and philosophical culture in industrial towns such as Sheffield and Birmingham might tend towards the utilitarian, but there were important differences (Elliott, 2005, 400, 411). The prime movers in Sheffield's Literary and Philosophical Society, established in 1822, were doctors, for example.(8) In this town, middle-class cultural life was somewhat distinct from the local industry. In contrast, middle-class industrialists were central to the literary and intellectual culture of Birmingham, the centre of an "industrial enlightenment" in the West Midlands peopled by industrialists and inventors such as Matthew Boulton and James Watt and the larger group of the Lunar Society, for example. A large number of studies have examined the relationship between science and industry in Birmingham and the West Midlands, teasing out the "industrial enlightenment," to use Joel Mokyr's phrase (Jones; Mokyr *Gifts of Athena*). Even Derby had philosophers (Elliott, 2009).

<18>The gentlemanly exchange of knowledge in a developed public sphere was a key feature of the British industrial revolution, and the sociable world of Birmingham and the West Midlands was well-placed to facilitate this (Mokyr, *Enlightened Economy*). Public discussions of manufacturing in Birmingham were often situated in this culture of invention and innovation. This contrasted with Sheffield. Indeed, Hirst's manuscript was itself partly a corrective to the relative lack of celebration of innovation in Sheffield manufacturing. His example was Thomas Boulsover, "the Father of the Business," who fused silver and copper to create a cheaper form of plated material in 1742 (Hirst 55). Hirst contrasted the way that Thomas Boulsover, "the Inventor [...] of the modern Art of Silver Plating" in Sheffield, was neglected compared to Matthew Boulton and Josiah Wedgwood who are "revered, and their memory respected" (Hirst 55). Boulsover "will deservedly rank with these worthies" for his "labour and ingenuity" (Hirst 55, 56). The public heroes of Birmingham manufacture were the inventors and innovators who developed and practised new ideas; the public heroes of Sheffield manufacture were the men who laboured with their hands.

<19>The visibility of embodied male labour in the Sheffield trades was also a direct reflection of the metal production in the town. Whereas Birmingham was renowned for its "toys" made from silver and plated metals—small metal items—such light metal trades in Sheffield existed alongside the heavy metal industry using steel. Moreover, metal workers in these towns experienced a different level of status. Though the workers who populated the light metal trades in Sheffield drew heavily on migrant labour from Birmingham (Pollard), workers in Sheffield acquired more social power in their town than they did in Birmingham (Smith). There seems to be a correlation, then, between the relative visibility of male labour in the public culture and the standing of metal workers in these towns. The social and cultural prestige of embodied male labour certainly depended partly upon physical labour. As Begiato's recent synthesis claims, "positively Herculean, bare-chested and heavily muscular" male bodies were an important component in "a long lineage of working-class heroism, rooted in male bodily strength" (Begiato, 2016, 147). Yet as we have seen in Hirst's manuscript, embodied labour was not just about muscle and brawn. Bodies work symbolically: physical strength is not simply a representation of physical strength. Hirst's manuscript highlights the multi-faceted nature of these discussions of labour in which manly strength and physical activity represented something else. Working men's bodies were animated with skill, virtue and liberty and depictions of embodied physical labour in action combined body with mind, emotion and ethics. In other words, though work was embodied and the body served as one principal symbol of labour, men's skilled work outstripped the body. The working man used his body but could not be reduced to it.

#### Conclusion

<20>According to Friedrich Engels, in towns such as Sheffield "hand-work" was being replaced with new forms of production, transforming "tools into machines" and devaluing the labour of workers (Engels, 16). Yet this was not the necessary outcome of the impact of the introduction of machines into manufacturing. In a fascinating ethnography of Sheffield in the late twentieth century, Massimiliano Mollono found that workers in the steel industry reported that the closer they worked with the machines the more they valued their labour. In fact, machines act as fetishes, "living and powerful entities which appear to give value to the workers' labour" (Mollono 10). In mid-nineteenth-century Sheffield, with new machines being introduced into the metal trades, male labour continued to be endowed with considerable cultural force and to represent civic power and civic virtue. This cannot be explained simply by recourse to general accounts of transformation in ideals of masculinity. Adamson has found that craft was being reduced to a series of techniques that could be easily replicated (Adamson 54-89). Yet even in the industrial setting of Sheffield, craft comprised highly personalized qualities that exceeded technical skills and male brawn. Hirst's manuscript shows that in a town dominated by manufacturers who were set apart socially from a professional cultural elite, some of the principal qualities of craft continued to be attached to a range of tasks in industrial settings. Local cultures thus developed in which manly skilled labour was more or less visible than intellectual power, technological invention or ingenuity, or merchant wealth. And this form of embodied masculinity that valorized male labour in action was not simply a depiction of physical strength. These labouring male bodies could be powerful and noble but they could also be vulnerable and frail. The force of male labour in industrial manufacturing was to embody virtue and liberty in a unity of physical force, skill, dexterity, care and feeling.

#### Endnotes

(1)The author wishes to thank the two anonymous reviewers, Katie Faulkner, Freya Gowrley and Carole Shammas, for their helpful comments. Audiences at the Pacific Coast Conference on British Studies (Huntington Library, April 2016) and the conference 'History of Consumer Culture' (Gakusyuin University, Tokyo, March 2017) also gave valuable feedback.(^)

(2)Hirst's manuscript was serialized in *The Burlington Magazine* in the 1920s. The editor speculates that he was the master of Handsworth school. See R. M. Hirst and Henry Newton Veitch, 'Sheffield Plate. III. A Brief Sketch of the Silver-Plated Establishments. Part Second (Continued)', *The Burlington Magazine for Connoisseurs*, Vol. 37, No. 209 (Aug., 1920), pp. 89-95. See p. 95 on identity of Hirst. For subsequent extracts see issue Vol. 37, No. 208 (Jul., 1920), pp. 18-27. I have found no information about Hirst, apart from a record of the burial of a 'Robert Michael Hurst' on 17th July 1835, aged 65. See Parish Registers for Sheffield St. Paul's, 1835: PR-139-4-3, p. 277. Viewed on Find My Past, 12 March 2018.(^)

- (3)Birmingham Museums and Art Galleries: 1996V145.79. See <a href="http://www.bmagic.org.uk/objects/1996V145.79">http://www.bmagic.org.uk/objects/1996V145.79</a> (last accessed 14 August 2018).(^)
- (4)Sheffield Archives, Picture Sheffield: s09917. (last accessed 14 August 2018).(^)
- (5)On other representations of working men that encompassed emotion, see Begaito (2015).(^)
- (6)This is taken from James Thomson, *The seasons, A hymn, A poem to the memory of Sir Isaac Newton, and Britannia, a poem* (London, 1730), p.7.(^)
- (7)See, for example, *The Two Grinders* by Godfrey Sykes, c1858, Museums Sheffield, https://artuk.org/discover/artworks/the-two-grinders-71264 (last accessed 12 March 2018).(^)
- (8)See the bound volume of lectures given to the Sheffield Literary & Philosophical Society in Sheffield Archives, 64067, on the topics discussed and 'Copy of the Jackson address to students of the Sheffield School of Medicine School', 1883. Sheffield Archives: NHS12/5/7/5, on the establishment of the Lit & Phil and its links to the medical profession.(^)

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